

WEIL-McLAIN

an ISO 9001 Certified Company

GOLD

GV

SERIES 4

GAS BOILER
with
Direct Vent



Water Net Ratings:
**53,000 to
133,000
Btu/Hr.**



As an ENERGY STAR Partner,
Weil-McLain has determined that
this product meets the
ENERGY STAR guidelines for
energy efficiency.

- **Easy to Install and Service**
- **Low NOx Certified by South Coast Air Quality Management District (Rule 1146.2) in California**
- **Made with Weil-McLain Quality**

Applications:

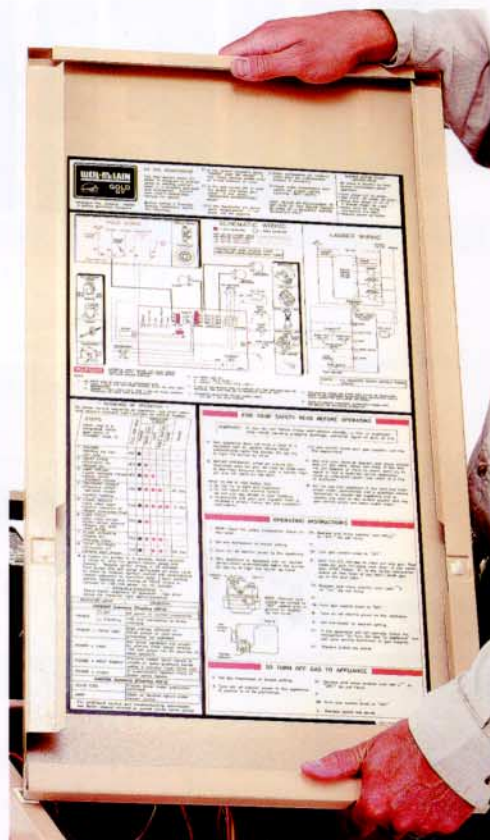
- Commercial
- Residential
- Multiple Boilers
- Schools and Other Institutions
- Indirect-fired Water Heating
- Radiant Heating
- ... And Much More

GV

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Design Advantages

Unique Section Design



The combustion area is at the top of the boiler. In addition to higher efficiency, this design makes sediment in older systems less of a problem. Wide waterways and larger crown sheets assure greater durability, even in marginal applications.

Modern elastomer sealing rings in the port openings provide a permanent watertight seal. The flexibility and elastic-memory of these seals (unlike metal push nipples), prevents leaks caused by thermal expansion and contraction.

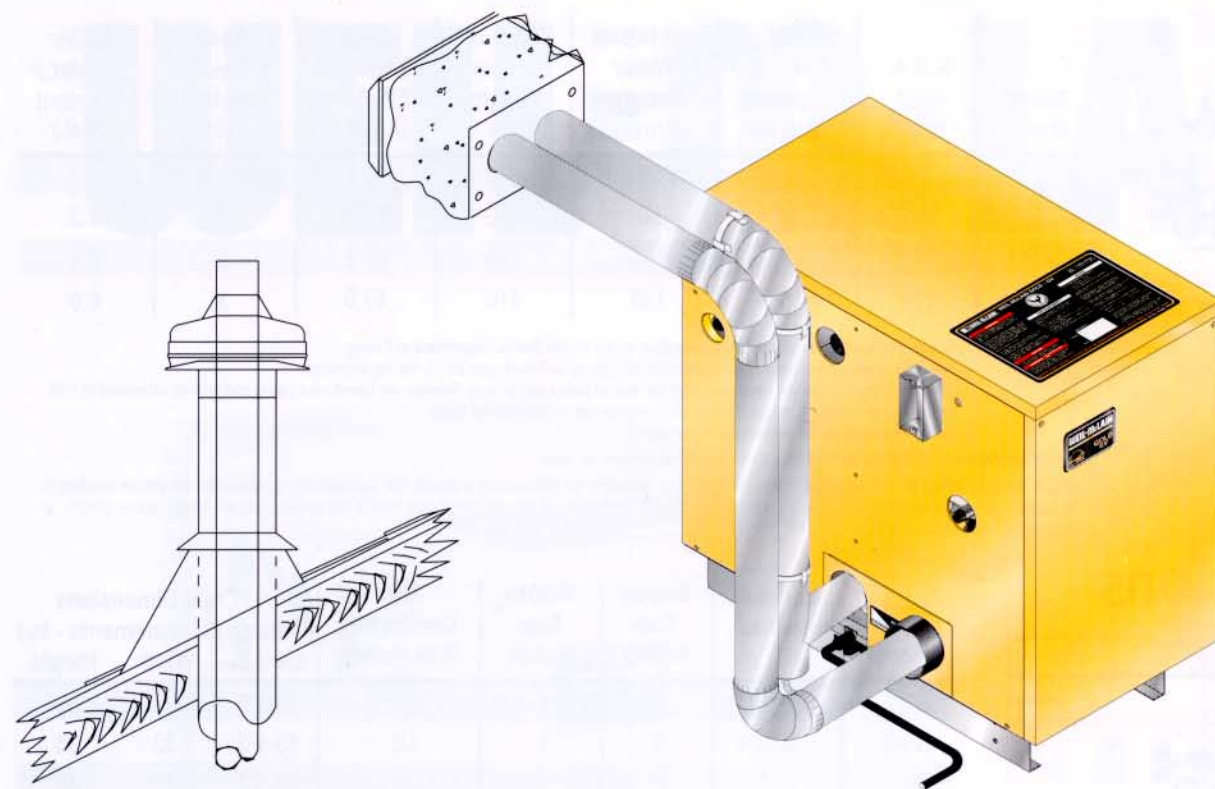
A special high-temperature sealant between the ground joint sections assures gas tightness.

And, of course, cast iron means long life — it's not uncommon for a Weil-McLain boiler to last 35 years or more.

Low NOx Emission Technology



Premix technology mixes combustion air with the gas before it ignites at the burner cone, reducing NOx emissions ... *and* makes the GV boiler more environmentally friendly. The GV boiler is low NOx certified by the South Coast Air Quality Management District (Rule 1146.2) in California. The NOx level of the GV boilers is as low as 30 nanograms per joule, well below the SCAQMD limit of 40 ng/J.



Direct Vent

The GV boiler must be vented directly outside — either through a wall, through the roof, or through an unused chimney.

Because condensation can occur in the venting system, AL29-4C® stainless steel venting systems must always be used and vent pipe manufacturers must be approved by Weil-McLain— see Venting Instructions for details.

When venting through an unused chimney, the vent pipe must be run through the entire length of the chimney. The chimney can be used only as a raceway.

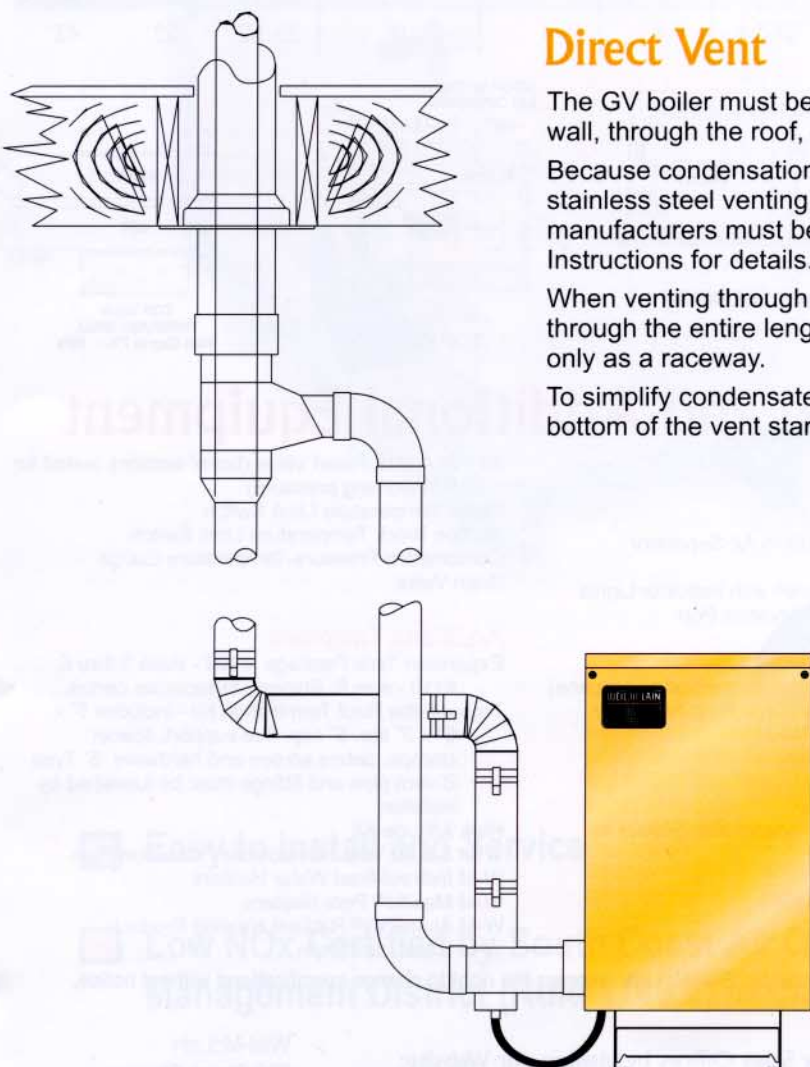
To simplify condensate removal, a drain connection is located at the bottom of the vent starter drain tee.

Sealed Combustion

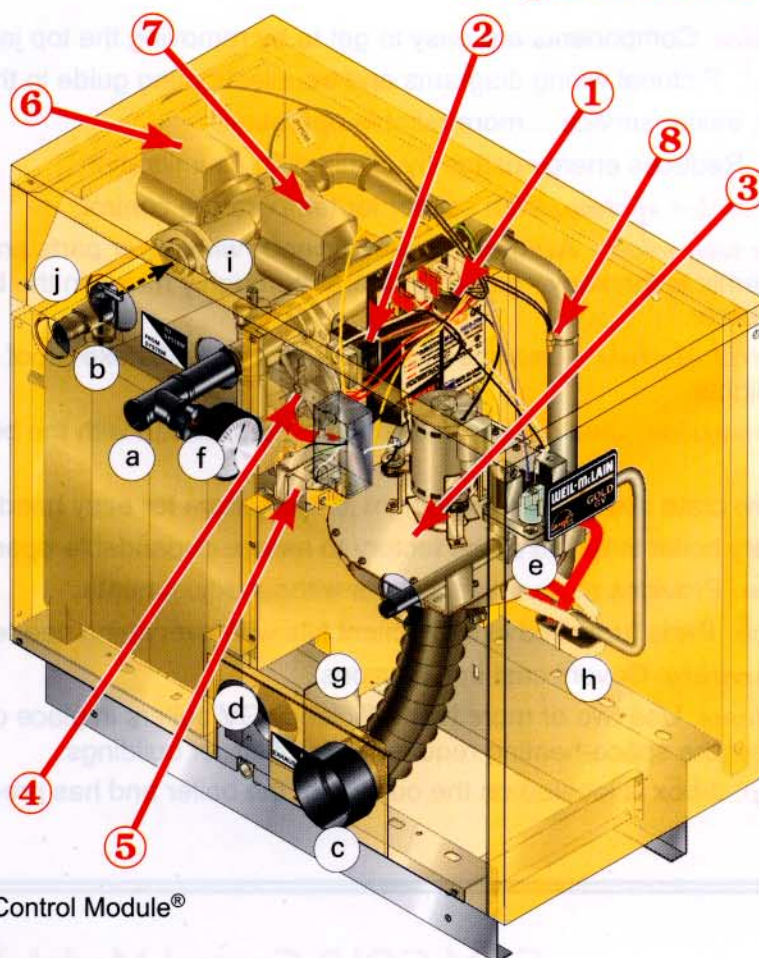
The Weil-McLain GOLD GV is a high-efficiency residential gas boiler with sealed combustion technology — that means using outside air for combustion. This feature lowers fuel bills by reducing air infiltration and eliminates problems caused by indoor air contaminants.

Outside combustion air can be used when the boiler is vented through a side wall or through the roof. To provide outside air, use galvanized or aluminum pipe, dryer vent or P.V.C.

A patented sidewall vent kit is furnished as standard equipment. A through-the-roof vent kit is available as additional equipment.



Sequence of Operation



① GCM GOLD Control Module®

② Control transformer

③ Blower

④ Air pressure switch

⑤ Limit switch

⑥ System circulator

⑦ Bypass circulator

⑧ Water temperature sensor

a Supply to system

b Return from system

c Combustion air inlet fitting

d Flue outlet

e Gas valve

f Pressure/temperature gauge

g Flueway inspection port cover

h Sensor hose trap

i Manual air vent

j Relief valve

How the boiler works ...

When a room thermostat calls for heat, the GCM starts the system circulator and blower.

The GCM runs the blower long enough to purge the boiler flue passages, then turns on the igniter and lets it warm up.

After a 15-second warmup, the GCM opens the gas valve, turns the igniter off, and checks for flame. The flame must come on within 4 seconds or the GCM will shut down and try the full cycle again.

When the room thermostat is satisfied, the GCM turns off the boiler components and waits for the next call for heat.

The GCM indicator lights show normal sequence when the lights are on steady. When a problem occurs, the GCM flashes a combination of lights, which indicates the most likely reason for the problem.

Features ... Advantages ... Benefits

- **Easy stand-up service.** Components are easy to get to by removing the top jacket panel.
- **Easy to understand.** Pictorial wiring diagrams and troubleshooting guide in the top jacket panel.
- **Fewer parts.** Faster, easier service ... more reliable operation.
- **Sealed combustion.** Reduces energy usage by eliminating air infiltration.
- **Built-in bypass circulator system.** With sensor for temperature control.
- **Unique combustion technology.** Assures higher efficiency with fewer parts and less complexity. Achieved through premix technology - gas and air are thoroughly mixed in the blower **before** entering the single burner.
- **GCM GOLD Control Module®.** Designed for Weil-McLain ... Mistake proof wiring ... diagnostic indicator lights.
- **Simple propane conversion.** Just change the orifice plate provided with the boiler - simple to do.
- **Easy to handle.** New crate design with the weight at the bottom for easy hand-trucking.
- **Factory-tested.** Every boiler is tested at the factory to assure dependable operation.
- **Hot surface ignition.** Provides more reliable starts without adjustments.
- **New parts approach.** Parts furnished in convenient kits with everything needed.
- **Limited lifetime warranty.** Covers cast iron sections.
- **Multiple boiler systems.** Use two or more high-efficiency GV boilers in place of one large-capacity boiler to meet the space-heating requirements of larger buildings.
- **Easy power hookup.** J-box is located on the outside of the boiler and has pre-stripped wires.

GCM GOLD Control Module®

Just as the GV GOLD Boiler is a major breakthrough in gas boiler design, the GCM GOLD Control Module® is a major breakthrough in boiler controls. It is the first control designed specifically for boilers — still another Weil-McLain exclusive.

The enclosed GCM has:

- five indicator lights — power, thermostat & circulator, limit, pressure switch, flame — that show proper operation and make troubleshooting easy without complicated add-on wiring.
- plug-in connectors that attach only one way to assure mistake proof wiring if components ever need to be replaced.

The GCM controls:

- all ignition, operating and safety-related functions. In addition, its microprocessor continually checks itself 60 times each second. If a situation such as electrical “noise” or low voltage is encountered, the GCM restarts and retries, eliminating nuisance lockouts.
- the flow rate of the system circulator depending on the temperature of the water entering the boiler section.
- the bypass circulator, mixing hot water from the boiler outlet with colder return water from the system when needed. By balancing the flow rates of the system and bypass circulators, the GCM can protect against condensation even if return water is as low as 60°F.

And regardless of future control improvements, the GCM design assures newer controls will always fit.



Ratings



DOE



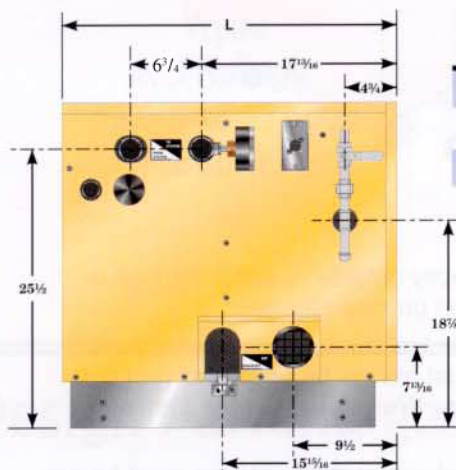
Boiler Model	A.G.A. Input MBH	DOE Heating Capacity MBH (1)	Net I=B=R Water Ratings MBH (2)	Approx. Shipping Weight (Lbs.)	DOE Seasonal Efficiency (AFUE) %	Vent Diameter Inches (3)	Boiler Water Content (Gal.)
GV-3	70	61	53	270	87.5	3	3.3
GV-4	105	92	80	320	87.3	3	4.2
GV-5	140	122	105	355	87.2	3	5.1
GV-6	175	153	133	410	87.0	3	6.0

- Notes:**
- 1) Based on standard test procedures prescribed by the United States Department of Energy.
 - 2) Net I=B=R ratings are based on net installed radiation of sufficient quantity for the requirements of the building and nothing need be added for normal piping and pick-up. Ratings are based on a piping and pick-up allowance of 1.15. An additional allowance should be made for unusual piping and pick-up loads.
 - 3) GV boilers must be vented directly to the outside.

Low NOx certified by SCAQMD in California, as low as 30 nanograms per joule.

A.G.A. design certified for installation on combustible flooring. Tested for 50 PSI working pressure. GV automatically compensates for altitude resulting in reduced input as follows: 2000 ft. - 93%; 3000 ft. - 90%; 4000 ft. - 87%; and 3% for each additional 1000 ft. For boilers used at altitudes above 5500 ft., a high altitude kit must be installed.

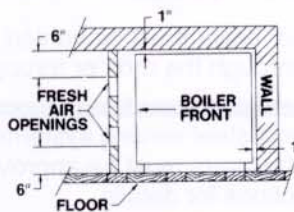
Dimensions



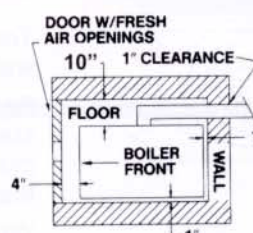
* Circulators supplied with boiler cannot be removed and cannot be used as a zone circulator in multiple zone systems.

** Includes inside and outside plates, vent cap and hardware.

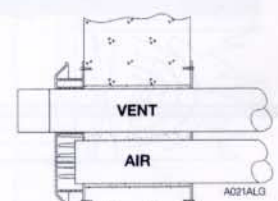
Boiler Model	Length - Inches L	Supply Size Inches	Return Size Inches	Gas Connection Size Inches	Crate Dimensions (Outside Measurements - In.)		
					Length	Width	Height
GV-3	30-3/4	1	1	1/2	33-1/2	22	36
GV-4	30-3/4	1	1	1/2	33-1/2	22	36
GV-5	37-3/4	1	1	1/2	33-1/2	22	43
GV-6	37-3/4	1	1	1/2	33-1/2	22	43



SIDE ELEVATION



TOP VIEW



TOP VIEW THROUGH WALL
Vent Cap is 7 1/8 x 10 3/8

Standard and Additional Equipment

Standard Equipment:

Factory Tested
Insulated Extended Jacket
Cast Iron Sections with Built-in Air Separator
Steel Base
GCM GOLD Control Module® with Indicator Lights
Blower Assembly with Observation Port
Gas/Air Manifold Assembly
Gas/Air Orifice Plate for Natural Gas
(separate plate furnished for conversion to propane)
Stainless Steel Burner Cone and Ring Assembly
Negative Regulation Gas Valve
Hot Surface Ignition System
Air Pressure Switch
System Circulator*
Built-in Bypass Circulator System with Sensor for Temperature Control*
Condensate Drain Trap
Sidewall Vent Termination Kit**
40VA Transformer
Electrical Junction Box

30 PSI ASME Relief Valve (boiler sections tested for 50 PSI working pressure)
Water Temperature Limit Switch
Section Block Temperature Limit Switch
Combination Pressure-Temperature Gauge
Drain Valve

Additional Equipment:

Expansion Tank Package #109 - sizes 3 thru 5; #110 - size 6. Shipped in separate carton.
Through the Roof Termination Kit - includes 5" x 5" x 3" tee, 5" cap, flue support, spacer clamps, debris screen and hardware. 5" Type B vent pipe and fittings must be furnished by installer.
High Altitude Kit
W-M 5 & 10 Year Homeowner Protection Plan
W-M Indirect-fired Water Heaters
W-M Maxiflo® Pool Heaters
W-M AlumiPex® Radiant Heating Products
W-M Baseboard Units

In the interest of continual improvements in product and performance, Weil-McLain reserves the right to change specifications without notice.



Locate our Sales Offices by visiting our Website:
www.weil-mclain.com

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